

## REMARKS/ARGUMENTS

The outstanding Office Action rejects Claims 1-21, 27, 30, and 31 on various grounds. Claim 30 is amended herein. The various grounds for rejection are discussed below. Claims 1-34 are remain pending in this application. Based on the following Amendments and Remarks, reconsideration and allowance of the pending claims is respectfully requested.

### Rejections Under 35 U.S.C. § 112

Claims 1-19 have been rejected under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph as being indefinite.

The Action has asserted that the recitation of a "population of lasers" is indefinite as one of ordinary skill in the art would not understand what the Applicants meant. Respectfully, the Applicants strongly disagree. First, the Action asserts that population refers to "people". Although true enough in some circumstances that definition is not what is known or implied here. In statistics, the term "population" is well known and defined as meaning an aggregation of items (not just people) from which samples can be taken. This is known to engineers and mathematicians of ordinary skill. Such a definition can be found in any standard statistics reference. Moreover, this definition is reinforced and strengthened by the comments and explanations provided in the specification. For example in paragraph [0007] of the Specification, it describes a method that "involves determining a base power level for a *population* of lasers using data models that characterize laser performance for the *population* of lasers and determining a relationship" (emphasis added). This is further elaborated upon in paragraph [0008] of the Specification. Particularly useful descriptions are found at paragraphs [0032]-[0037] and [0047]-[0049] of the Specification. Also, this term is further explained at paragraphs [0060], [0061], [0065], [0068], [0087], and [0102] of the Specification. Thus, the Applicants strongly make the point that the term "population" is well known in the art. Accordingly, it is believed that the existing language is neither vague nor indefinite. Therefore, the Applicants respectfully request that this ground of rejection of Claims 1-19 under §112 be withdrawn.

However, the Applicants respectfully suggest that, should it become necessary at some time to amend the claims to include language deemed more definite, the Applicants respectfully suggest that the words "group", "aggregation", "plurality", or other like language could be substituted without change in scope if necessary.

As to Claim 30, this claim was similarly rejected as being indefinite under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph. Accordingly, the Applicants have amended line 9 of the claim to more definitely express that the memory operates to store information in a table. Claim 30 is amended as follows: "memory for capable-of storing information". Thus, the vague language is eliminated. Accordingly, it is believed that this change clarifies the claim to a degree suitable for allowance. Therefore, the Applicants respectfully submit that foregoing amendment addresses this ground of rejection. Accordingly, the Applicants respectfully request that this ground of rejection of Claim 30 under §112 be withdrawn.

Additionally, in the body of the paragraph concerning Claim 30 reference is made to claims 1 and 5. In the context of the paragraph it is believed that this reference is typographic in nature. To the extent that this conclusion is incorrect, Applicants' representative kindly request that the Examiner telephone him to clarify this issue.

#### Rejections Under 35 U.S.C. § 103

Claims 20, 21, 27, 30, and 31 stand rejected under 35 U. S. C. §§ 103(a) as being unpatentable over *Ames* (USPN 5,073,838 hereinafter "*Ames*") in view of *Levinson* (USPN 5,019,769 hereinafter "*Levinson*").

Applicants respectfully traverse this rejection as well.

#### Claims 20, 27, & 31

Although the claim language of these claims is different, in many respects the same remarks apply to all three claims which are discussed hereinbelow.

#### Claim 20

As to Claim 20, the Applicants point out that the "lookup table" recited in Claim 20 is not the same as the prior art table. In Claim 20 the "look up table" has "stored values for *current information associated with temperature*" (emphasis added). Thus, the information stored and referenced in the inventive device requires an association of temperature with current (that is used to project the correct optical power). The *Ames* reference clearly states that the lookup table associates temperature with "duty cycle" to prevent burning up the laser (See, *Ames* Fig. 6, and at 8:48-9:4). Quite simply, the prior art look up table has nothing to do with modulating laser power using the association of "laser driving current" and "temperature" as is claimed in the present invention. Thus, the cited art fails to teach at least this claim limitation. Absent a

teaching or suggestion of all claim limitations the cited combination of references fails to establish a *prima facie* case of obviousness as to Claim 20. Accordingly, Applicants respectfully request that the pending ground of rejection for Claim 20 be withdrawn.

Claim 27

As to Claim 27, the Applicants point out that the “memory having stored values for current information associated with temperature” recited in Claim 27 is not the same as the prior art table. In Claim 27 the “memory” has “stored values for *current information associated with temperature*” (emphasis added). Thus, the information stored and referenced in the inventive device requires an association of temperature with current (that is used to project the correct optical power). The *Ames* reference clearly states that the lookup table associates temperature with “duty cycle” to prevent burning up the laser (See, *Ames* at 3:58-4:21, also at Fig. 6, and 8:48-9:4). Quite simply, the prior art teaches a temperature based on/off switch that is either on or off based on the duty cycle associated with the laser at given temperature. It has nothing to do with having “laser driver circuitry for receiving temperature dependent current information from the table and using the information to provide a driving current to the semiconductor laser emitter so that the laser emits an optical signal having a desired optical power” as is claimed in the present invention. Thus, the cited art fails to teach all claim limitations. Absent a teaching or suggestion of all claim limitations the cited combination of references fails to establish a *prima facie* case of obviousness as to Claim 27. Accordingly, Applicants respectfully request that the pending ground of rejection for Claim 27 be withdrawn.

Claim 31

As to Claim 31, the Applicants point out that the “look-up table” having “stored values for current information associated with temperature” recited in Claim 31 is not the same as the prior art table. The *Ames* reference clearly states that the lookup table associates temperature with “duty cycle” to prevent burning up the laser (See, *Ames* at 3:58-4:21, also at Fig. 6, and 8:48-9:4). Thus, the information stored and referenced in the inventive device requires an association of temperature with current (that is used by the driver circuitry to emit “an optical signal having a desired optical power”). As previously stated, the prior art teaches a temperature based on/off switch that is either on or off based on the duty cycle associated with the laser at given temperature. It has nothing to do with having “laser driver circuitry for receiving temperature dependent current information from the table and using said current information to provide a driving current to the semiconductor laser emitter so that the laser emits an optical

signal having a desired optical power" as is claimed in the present invention. Thus, the cited art fails to teach all claim limitations. Absent a teaching or suggestion of all claim limitations the cited combination of references fails to establish a *prima facie* case of obviousness as to Claim 31. Accordingly, Applicants respectfully request that the pending ground of rejection for Claim 31 be withdrawn.

**Claim 21**

As to Claim 21, the Applicants point out that the "lookup table" recited in Claim 21 "stored therein values concerning a relationship between temperature and target average power" which is not the same as the prior art information. Again, the *Ames* reference clearly states that the lookup table associates temperature with "duty cycle" to prevent burning up the laser (See, *Ames* Fig. 6, and at 8:48-9:4). The Action offers that "target average power" is *inherent* in the information stored.

**Claim 21 and Inherency**

Firstly, the Applicants point out that the cited art does not teach or suggest anywhere the concept of a target average power. Moreover, "target average power" has nothing to do with the "duty cycle" that is taught by *Ames*.

In applying the concept of inherency to the present invention, the Applicants point out that "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). The case here is the storage of different data from that taught in the cited art. The fact that the table could have been constructed to contain different data is not sufficient. The prior inventors simply did not think of the invention as claimed. They did not consider the relationship between current and power in order to modulate output power. Moreover, they most certainly did not conceive of applying a "target average power". The *Ames* reference contemplates the relationship between temperature and duty cycle to prevent laser destruction, nothing more. This is a completely different invention.

"To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is *necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of

circumstances is not sufficient.'" (emphasis added) *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Thus, inherency is a very specific concept requiring a high degree of evidence to provide a convincing rationale in support of "inherency". MPEP 2112. The Action has not provided any such evidence or any underlying rationale for its conclusion. There is no showing that the inherent characteristics necessarily flow from the prior art (*Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)). In particular, there is no showing that the prior art teaching of turning the power on/off in accord with a duty cycle to prevent laser burn out inherently involves using a temperature relationship with "target average power" to achieve this prior art mode of operation. Quite simply, the prior art look up table has nothing to do with modulating laser power using the "relationship between temperature and target average power" as is claimed in the present invention.

The prior art is about preventing laser burn out using a relationship between temperature and a laser duty cycle. The present invention is about modulating laser power using the relationship between temperature, current, and average target power. This is not taught or suggested by the cited art. Thus, the cited art fails to teach all claim limitations. Absent a teaching or suggestion of all claim limitations the cited combination of references fails to establish a prima facie case of obviousness as to Claim 21. Accordingly, Applicants respectfully request that the pending ground of rejection for Claim 21 be withdrawn.

### Claim 30

As to Claim 30, the Applicants point out that the "table" recited in Claim 30 is not the same as the prior art table. In Claim 30 the "table" has "values concerning relationships between temperature and selected current information associated with the operation of the laser" and "values concerning relationships between temperature and target average power associated with the operation of the laser". Additionally, Claim 30 recites "laser driver circuitry for receiving from the table and using said current information to provide a driving current to the semiconductor laser emitter so that the laser emits an optical signal having a desired optical power." This is considerably different from what is taught by *Ames* and *Levinson*.

Thus, the information stored and referenced in the inventive device requires an association of temperature with current. And, importantly, an *association between temperature*

with target average power. The prior art does not teach or suggest these limitations. In fact, the prior art is not even aware of the existence of such limitations or their potential value. The *Ames* reference clearly states that the lookup table associates temperature with "duty cycle" to prevent burning up the laser (See, *Ames* Fig. 6, and at 8:48-9:4). *Ames* provides an on/off switch (See, *Ames* 4:13-21) that is selectively actuated (See, *Ames* 4:15-17) when necessary to meet the duty cycle criteria of the laser to prevent burn out. Quite simply, the prior art look up table has nothing to do with modulating laser power over a range of temperatures and using current information to modulate the laser driver circuitry in a manner that provides modulation of the laser power to generate a range of desired laser powers over a range of temperatures. Quite simply, *Ames* is a primitive 1980's technology that teaches only laser on/off to comply with a duty cycle to prevent laser burn out. It does not teach or suggest power modulation over a temperature range as claimed in the present invention. Thus, the cited art fails to teach all claim limitations. Absent a teaching or suggestion of all claim limitations the cited combination of references fails to establish a *prima facie* case of obviousness as to Claim 30. Accordingly, Applicants respectfully request that the pending ground of rejection for Claim 30 be withdrawn.

#### Allowable Subject Matter

The Applicants thank the Examiner for her kind indication of allowance as to Claims 22-26, 28-29, and 32-34. Although these claims are presently objected to as being based on rejected base claims the Applicants respectfully submit that that the above amendments and remarks should clarify that the base claims are in fact allowable. Accordingly, it is respectfully submitted that the objected claims 22-26, 28-29, and 32-34 should also be allowable. However, should it become necessary at some future time to amend these objected to claims to overcome a pending objection, the Applicants are not adverse to doing so in principle. However, at this time the Applicants respectfully submit that these claims are currently allowable as drafted and accordingly request that the pending objection be withdrawn.

#### Conclusion:

In view of the foregoing amendments and remarks, it is respectfully submitted that the claimed invention as presently presented is patentable over the art of record and that this case is now in condition for allowance.

The Applicants respectfully assert the following:

In particular, the Applicants note that the pertinent references of interest were cited in the form PTO-892 provided during prosecution. None of these references anticipates the Applicants' claim language under 35 U.S.C. § 102, nor provides a proper basis for an obviousness rejection under 35 U.S.C. § 103.

Also, the Applicants' PTO-1449 citation was received by the PTO, was reviewed, and all references considered. The references cited do not anticipate the Applicants' claim language under 35 U.S.C. § 102, nor provide a proper basis for rejection under 35 U.S.C. § 103.

Applicants' previous withdrawal of Claims 26-29 from United States Patent Application Serial No. 10/683,212, obviates any potential double patenting rejection regarding United States Patent Application Serial No. 10/683,212.

This Amendment and Remarks are on point and agreed with by Examiner. None of the currently pending claim language has been disclosed by the prior art. The Examiner finds no grounds for asserting that the claim language is vague or indefinite or lacking in support or any other limitations associated 35 U.S.C. § 112, 1<sup>st</sup> and 2<sup>nd</sup> paragraphs. The Examiner finds no prior art to anticipate the claim language under 35 U.S.C. § 102. The Examiner finds no motivation to combine or make obvious, under 35 U.S.C. § 103, from any reference(s) cited throughout the prosecution history to arrive at Applicants' claim language. Further, no 35 U.S.C. § 101 issues are present. In conclusion, Applicants' claims are deemed to fully meet USPTO patentability requirements.

Accordingly, the Applicants request withdrawal of all pending rejections and request reconsideration of the pending application and prompt passage to issuance. As an aside, the Applicants clarify that any lack of response to any of the issues raised by the Examiner is not an admission by the Applicants as to the accuracy of the Examiner's assertions with respect to such issues. Accordingly, Applicants specifically reserve the right to respond to such issues at a later time during the prosecution of the present application, should such a need arise.

As always, the Examiner is cordially invited to telephone the Applicants' representative to discuss any matters pertaining to this case. Should the Examiner wish to contact the undersigned for any reason, the telephone number set out below can be used.

Additionally, if any fees are due in connection with the filing of this Amendment, the Commissioner is authorized to deduct such fees from the undersigned's Deposit Account No. 50-0388 (Order No. NSC1P287).

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP



Francis T. Kalinski II  
Registration No. 44,177

P.O. Box 70250  
Oakland, CA 94612-0250  
Telephone: (650) 961-8300